

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Larry Gilberston

Docket No. 38-15(51091)B

Filed: April 1, 2004

For: Homologous Recombination-Mediated Transgene Deletion in Plant Cells

DIVISIONAL APPLICATION REMARKS AND COMMENTS

Mail Stop Patent Application

Commissioner for Patents

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INTRODUCTORY COMMENTS

Sir:

The above reference application is a division of copending U.S. Patent Application Serial No. 09/801,261, filed March 7, 2001, the claims of which are now allowed.

The specification of the above-referenced application is identical to that of copending parent application Serial No. 09/801,261, as filed, except for changes described in detail below. The Applicant believes that these changes do not introduce new matter in the specification but rather correct typographical and style errors and more particularly claim an invention disclosed in the parent specification.

REMARKS

1) Specification page 1, lines 1-6: The Title is changed to be more technically accurate and descriptive. The reference to Related Applications is changed to read as follows:

“This application is a division of Application Serial No. 09/801,261 filed March 7, 2001 which is a continuation-in-part of Application Serial No. 09/521,557 filed March 9, 2000 which are incorporated herein by reference.”

2) Specification Page 29, line 1. Footnote (a) to Table 1 was changed to remove a hyperlink and replaced with the following:

“^aAdapted from Neil Crickmore, University of Sussex, UK”

3) Specification page 97 line 10. The typographical error “*in vitro*” was replaced by the phrase “*in vivo*.” The specification clearly notes that the recombination occurs in live plant cells.

4) Specification page 98 line 25. The word “negative” was deleted from the phrase “negative selectable marker.” In view of careful reading of the Zubko *et al.* reference, Applicant submits that Zubko does not use nor suggest the use of a negative selectable marker.

5) Abstract, page 121 lines 3-6. The abstract is rewritten to delete the reference to the invention. The new abstract now clearly describes the nature and gist of the technical disclosure.

6) Support for the claims.

Support for claim 1 is found in the specification of the parent application as originally filed claim 1. The following marked-up version of claim 1 from the parent application will assist in understanding the support for the claims.

1. A method of preparing a fertile transgenic cell having an altered transgene insertion comprising:
 - a) obtaining a first transgenic cell, wherein the transgene insertion DNA sequence comprises ~~a pre-selected~~ an ancillary DNA sequence flanked by directly repeated DNA sequences;
 - b) obtaining a plurality of progeny cells of any generation of the first transgenic cell;
 - c) selecting a progeny transgenic cell ~~wherein at least a portion of the transgene insertion is altered as compared to the first fertile transgenic cell~~ in the presence of a negative selection agent wherein said ancillary DNA sequence flanked by directly repeated DNA sequences is deleted in the transgene insertion in the progeny transgenic cell as compared to the transgene insertion in the first transgenic cell.

Support for “ancillary DNA” and the deletion of ancillary DNA from plants or plant cells can be found at page 1 lines 11-13, page 2 lines 5-14, page 2 lines 19-21, page 3 lines 18-23, and page 6 lines 28-29. Support for deletion of sequences, including “ancillary DNA sequences flanked by directly repeated DNA sequences” can be found at page 6 line 28 to page 7 line 14, in Figures 12 and 13 and Example 3, page 105 lines 7-20. Support for the step of selecting “in the presence of a negative selection agent” and resultant transgene deletion can be found at page 97 line 17 to page 98 line 25.

Support for claim 2 can be found at page 3 line 29 to page 4 line 8 and page 5 lines 7-9.

Support for claim 3 can be found at page 4 lines 14-15.

Support for claim 4 can be found in page 95 lines 20-27, page 98 lines 7-10, Figure 4, Figure 12, Figure 13 and Example 3 page 105 lines 7-20.

Support for claim 5 can be found at page 4 lines 16-17, page 97 lines 17-22, page 98 lines 7-26, and Figure 13.

Support for claims 6 and 7 can be found at page 97 line 17 to page 98 line 10.

Support for claims 8 and 9 can be found at page 21 line 27 to page 24 line 3 and page 98 lines 7-12.

Support for the transgenic callus cell of claim 10 is found at page 13 lines 14-17, page 56 lines 5-8, page 97 lines 7-8 and Example 3 page 105 lines 7-20.

Support for a monocotyledonous callus cell of claim 11 and the maize callus cell of claim 12 is found in Example 3 page 105 lines 7-20.

Support for claims 13, 14 and 15 can be found at page 97 lines 7-9 and page 97 line 17 to page 98 line 26, in particular lines 23-25 of page 98.

Support for claims 16, 17, 18 and 19 may be found at page 88 line 16 to page 89 line 12.

Support for claims 20 and 21 can be found in Example 3 page 105 lines 7-20 and throughout the specification. The specification contains detailed description for the production of transgenic plants at page 61 line 15 to page 95 line 12, with particular reference to maize, a monocotyledonous plant found at page 61 lines 27-29 and page 72 lines 14-16.

Support for claims 22 and 23 can be found on page 4 line 21 to page 5 line 3 and page 94 line 15 to page 95 line 12.

Respectfully submitted,

A handwritten signature in black ink that reads "Pamela C. Ball". The signature is written in a cursive, flowing style.

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